

S.3 Probabilities using Counting Methods

Friday, April 26, 2013
9:10 AM

Reminders

$${}_nC_r = \frac{n!}{r!(n-r)!}$$

- use when order
does not matter

$${}_nP_r = \frac{n!}{(n-r)!}$$

- use when order
does matter

Fundamental Counting Principle

if there are "a" ways to do ~~~ and "b" ways
to do ~~~, then there are "a·b" ways
to do both.

$$P(A) = \frac{n(A)}{n(S)} = \frac{\text{\# of times A happened}}{\text{total \# of possible way (A or not A)}}$$

For the problems in 5.3 in general:

- ① Calculate the # of possibilities for that specific situation. → numerator
- ② Calculate the total # of all possibilities → denominator
- ③ Probability = $\frac{\text{\# specific situation}}{\text{total \#}}$

★ Text examples pg 314-320

★ Practice pg 321 #1-5, 8, 11, 15, 16